

## KNOWLEDGE MANAGEMENT AND MANAGEMENT ACCOUNTING

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### **Abstract:**

The science of management accounting began to develop in the eighties of the last century, the science of knowledge management in the nineties. Today's businesses bases on knowledge thus, knowledge management and management accounting are an integral part of the organization and the organizational processes. The importance of knowledge is not only in knowledge itself, or the knowledge of the individual or the organization, but the knowledge of using processes in knowledge management systems, which brings to the organizations a competitive advantage. Similarly, we can conclude for management accounting. Organization can be more effective and have a competitive advantage in the market by changing the organizational processes of management accounting, as confirmed by the results of research (Becerra-Fernandez & Sabherwal, 2001; Čadež, 2006; Kaplan, 1998; Schiller, 2010; Vaivio, 2008). In the conceptual model, which requires empirical study and is based on quantitative research, we will try to linked strength and directness or indirectness impact of changes in management accounting processes on efficiency and innovation organizations.

*Keywords: knowledge management, management accounting, sustained competitive advantage*

## 1. INTRODUCTION

The science of knowledge management and the science of management accounting penetrate both the scientific and business communities, have been written by different authors (Kaplan, 1984, Mitchell, 2002, Scapens, 1990, Smith et. al. 1988). Alavi and Leidner (2001) define knowledge management as the identification and impact of collective knowledge in an organization to help competitiveness. Management accounting is defined as the integration of partnership in management decisions, divisional planning and performance management systems and providing expertise in financial reporting and control to assist management in formulation and implementation of an organization's strategy (Davis, 2012, p. 3).

Knowledge management and management accounting are gaining increasing importance, which is exploring further strengthened. The importance of knowledge is not only in knowledge itself, or the knowledge of the individual or the organization, but the knowledge of using processes in knowledge management systems, which brings organizations a competitive advantage.

This article is based on qualitative research, where we use the method of text analysis. We examine the knowledge management and the knowledge management in management accounting. With the conceptual model we will establish the link between the knowledge management and the management accounting.

In the section that follows, we presented in shortly the knowledge management and define the knowledge, activities of knowledge management and information technology. In the next chapter, we discuss managerial accounting, its definition, knowledge and operations management accounting and management accounting view as carrier of the changes in the organization. In the fourth chapter we present a conceptual model and propose examining the impact of management accounting processes within the organization to efficiency and innovation in organizations. We propose to verify the influence of knowledge management on the performance and innovation of the organization through influence on learning and on management accounting, as discussed by various authors (Becerra - Fernandez & Sabherwal, 2001, Chou, Vassar, & Lin, 2008; Čadež, 2006, Holsapple & Jones, 2004).

## 2. KNOWLEDGE MANAGEMENT

Knowledge management has begun to take root in the nineties. Nonaka and Takeuchi (1995) were among the first to develop a theory of knowledge creation in an organization that is composed of ontological and epistemological point of view. Ontological aspect emphasizes that knowledge is created by individuals, epistemological perspective is based on the knowledge chain, where knowledge is created through social interaction between tacit and explicit knowledge (Nonaka & Takeuchi, 1995).

The authors Holsapple and Jones (2004, p. 155) summarized the model knowledge chain. The understanding of relationship between knowledge management and performance of organization is presented in the model knowledge chain. The model identifies five primary and four secondary activities that are key points to achieve the competitiveness of the organization.

Ontology of management skills by Holsapple and Jones (2004, p. 157) distinguishes five levels of knowledge:

- the acquisition of knowledge
- the selection of knowledge
- the generation of knowledge
- the assimilation of knowledge and
- the emission of knowledge.

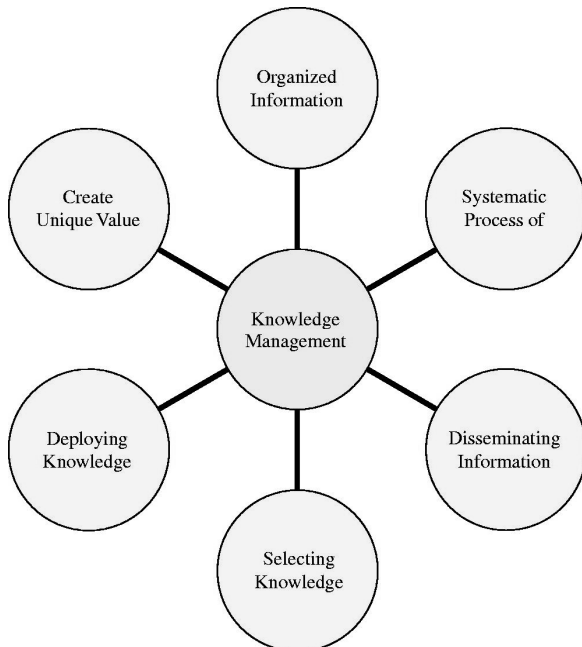
The study of knowledge management has arisen as a result of the difficult identification of knowledge within organizations. The definition of knowledge management is: identification and impact of collective knowledge in an organization to help competitiveness (Alavi & Leidner, 2001).

Svatošova (2012, p. 159) believes that the knowledge management is part of the overall business of the organization and must be present in all structures. With proper treatment of knowledge in

organizations, which is supported by the activities and processes and the use of knowledge management systems, organization achieves greater efficiency.

Similarly, claim the authors Chou, Vasser and Lin (2008), which feature functions of knowledge management and classified it into several categories or sub-systems.

**Picture1:** Categories of knowledge management by Chou et al. (2008, p. 38)



Source: Chou et al., 2008, p. 38.

## 2.1. Knowledge

Knowledge is a sum of data that someone is pushed into the consciousness with learning («ISJ Research center: Glossary of Slovenian literary language», 2009). Different authors are using different approaches to define knowledge. The knowledge is resulting from the processes and derived from the people. Some authors assume that the data are the basic facts and figures, and the information is processed data, and knowledge is authentic information. The knowledge must exist before formulating information and data from them and sets the path from data to knowledge says Tuomi (1999). Other authors define knowledge as information provided to the intellect of the individual because it is personalized information related to facts, procedures, concepts, interpretations, actions, observations and assessments. Chou and others (2008, p. 37) argue that knowledge can be defined as the reliable information that accumulates as a knowledge of employees.

Huber (1991) and Nonaka (1994) argue that knowledge is defined as a justified belief that increases the capacity of the organization for effective action and can be looked at from multiple perspectives:

- state of mind (the added value of an individual)
- object (such a thing)
- process (enforcement expertise)
- ability (impact on future action).

Knowledge can also be systematically divided into soft (unwritten) or tacit knowledge and clear (written) or explicit knowledge (Alavi & Leidner, 2001). Further can be separated to individually (individual) and collective (corporate) knowledge. These skills are complementary, since the knowledge of the individual is tacit and should be structured, which is necessary for the development and interpretation.

Organizations want to mediate the knowledge within the organization. With the knowledge management the knowledge is transmitted to written knowledge, which is the basis for use of information technologies in the context of knowledge management systems. Different types of knowledge (soft, states, individual, collective, explanatory, procedural, causal, conditional, integrative and professional) have historically influenced the development of knowledge management, similar can be said about the impact of knowledge on the development of management accounting.

## 2.2. Knowledge management activities

Knowledge management activities according to the authors Chou, Vasser and Lin (2008) include the internal management of data and information flows in, between and from the organization, which includes the acquisition and dissemination of information and the selection and deployment of knowledge, which creates a unique value and organizing information.

Knowledge management activities according to Alavi & Leidner (2001) are the creation of new knowledge, the demand for external knowledge, storing knowledge in documents instead of routines and instructions, upgrading of knowledge and its dissemination.

Similarly, in the paper Svatošova (2012) provides the base knowledge management activities that promote growth and learning, selecting and downloading of relevant information, grading and sorting of information, knowledge preservation, transformation and ensuring the availability of knowledge and data, the use of knowledge in the decision-making process and management the use of knowledge in all production processes, use of knowledge in business processes and protection of knowledge and information.

## 2.3. Information technology and knowledge management

The use of information technology started to develop knowledge management systems in order to facilitate covering knowledge in organizations. Information technology is incorporated in applications in the organizational aspect of knowledge management (Alavi & Leidner, 2001). Knowledge systems consist of four levels:

- Level 1: create
- Level 2: store / search
- Level 3: transmission and
- Level 4: application or use.

When we create knowledge (first level) we are talking about developing new content or skills, or substitution of new content within the organization. Creation of knowledge is carried out within the organization via e-mail, support systems for employees, intranet, etc., where, according to Nonaka and Konno (1998), the Ba is common room. Communication via computers allows increasing the quality of knowledge because the interaction generated new knowledge and understanding. As knowledge in the organization evolves, it is quickly forgotten and this creates the need to preserve knowledge (second level) in knowledge management systems. Knowledge transfer (third level) is carried out at different levels - between individuals, from individuals to the enshrined sources, from individuals to groups, between groups and the like. Transmission channel knowledge is formal - meetings (possibly retard creativity) or informal - random meetings, seminars or breaks (small organizations). In the application of knowledge (fourth level) Grant (1996b) identifies three basic mechanisms for the integration of knowledge to create organizational skills, namely directive (instructions), organizational routines, processes, and groups for individual tasks - solving problems.

In knowledge management systems is all based on the development of information technology to support knowledge. After a review of the literature Alavi and Leidner (2001) consolidated systems in three basic applications:

- coding and sharing of best practices
- creation a map of corporate knowledge
- the creation of knowledge networks.

Authors (Alavi & Leidner, 2001) summarize that information system support organizational knowledge

management, complementary and promote the activities and processes of knowledge management, the activities of individuals and groups.

In the next chapter of the paper we present management accounting, which is defined as the core changes in the organization with the support of the activities of knowledge management.

### **3. MANAGEMENT ACCOUNTING**

Management accounting is a young science that emerged in the eighties. Definition of management accounting is made by Institute of Management Accounting (IMA), which was established in 1919 as an organization in the United States. In 1981, the IMA defined management accounting (Davis, 2012, p. 3) as a process of identification, measurement, accumulation, analysis, preparation, interpretation and communication of financial information used by management to plan, evaluate and control within the organization and to assure appropriate use of and accountability for its resources. Due to the strategic role of management accounting in the last twenty years, which first pointed Kaplan (1984, p. 414), the IMA in 2008 revised the definition of management accounting, which involves a partnering in management decision making, devising planning and performance management systems, and providing expertise in financial reporting and control to assist management in the formulation and implementation of an organization's strategy (Davis, 2012, p. 3). Similarly defines management accounting Simmonds (1986, p. 26), who says that it is the collection and analysis of financial information on the organization and the competitors for the purpose of developing and controlling business strategy.

#### **3.1. Knowledge**

Knowledge management accounting has an important role because of the specific role of accountants which professional knowledge and skills in the preparation and presentation of information on financial and other decisions guided so as to support management in formulating strategies and policies and in planning and overseeing the operations of the organization (Institute certified management accountants - ICMA). Knowledge in management accounting can be linked to the definition of knowledge in knowledge management because the accounting numbers are converted into information and then into knowledge. The accountants are using their intellect and knowledge for interpretation of accounting numbers or data.

#### **3.2. Management accounting activities**

Management accounting in organizations is linking two key challenges of management, which are related to rational decision-making and streamlined surveillance operation (Vaivio, 2008, p. 65). Management is constantly facing the challenge of how to choose the best action resulting logical sequence of events and how to implements the decisions and guidance to the organization and compares the results with the targets (Vaivio, 2008, p. 66). Management accounting support rational decision making by providing quantitative information, economic analysis, financial evaluations that support well-informed employee to make a reasonable decision or choice. At the same time, management accounting supports the rational control of measuring and monitoring the progress of the organization in the achievement of specific, quantifiable financial and non-financial objectives and to manage the exceptions, it encourages prompt corrective action (Vaivio, 2008, p. 66).

Burns and Yazdifar (2001) on the bases of questionnaire, which was carried out in England between the management accountants, found that the most important activity of management accountants between 1995 and 2000, 2000 and 2005 substantially changed. Among the traditional activities of management accountants is still dominated the rating of the organization, cost and financial control, presentation and interpretation of financial data, planning and management of the financial plan, while are gaining in importance of new activities management accountants, which are mainly strategic planning and implementation, identification and creation of added value, the introduction of new information systems and the presentation of operational information, which puts emphasis on analyzing the consistency of the strategy.

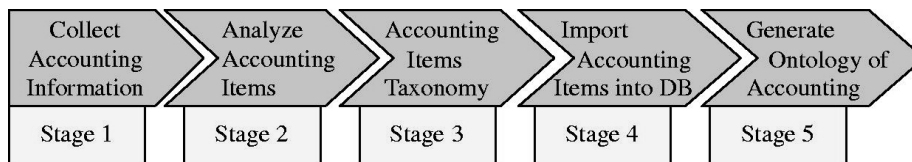
The debate on improving organizational processes in accounting is kindled between the authors Lukka (1998), who argues that the accounting discipline emerging because it is the source of competitive

advantage, while Jonsson (1996, 1998) argues that the accounting has minor role in process improvement.

Other authors (Abrahamsson & Gerdin, 2006, p. 126) argue that the effectiveness of the organization as a whole in the last decade is crucial to achieving competitive advantage, which could be achieved through the organization of processes in a way that stimulates communication, collaboration and integrated all employees into planning processes. The process of building knowledge about management accounting (Chou et al., 2008, p. 42) can be divided into five phases, as shown in picture 2:

- Phase 1: collect accounting information (from an accounting information system or other data sources)
- Phase 2: analyze accounting items (each accounting item will be divided or classified on the basis of content items, the relationship between items and business item)
- Phase 3: the accounting classification (taxonomy) of items, where the use of results from a Phase two creates a model of interrelated items that are assigned taxonomy.
- Phase 4: Import accounting items in the draft financial plan
- Phase 5: Create ontology accounting (accounting creates architecture affects items).

**Picture 2:** Design processes in management accounting research



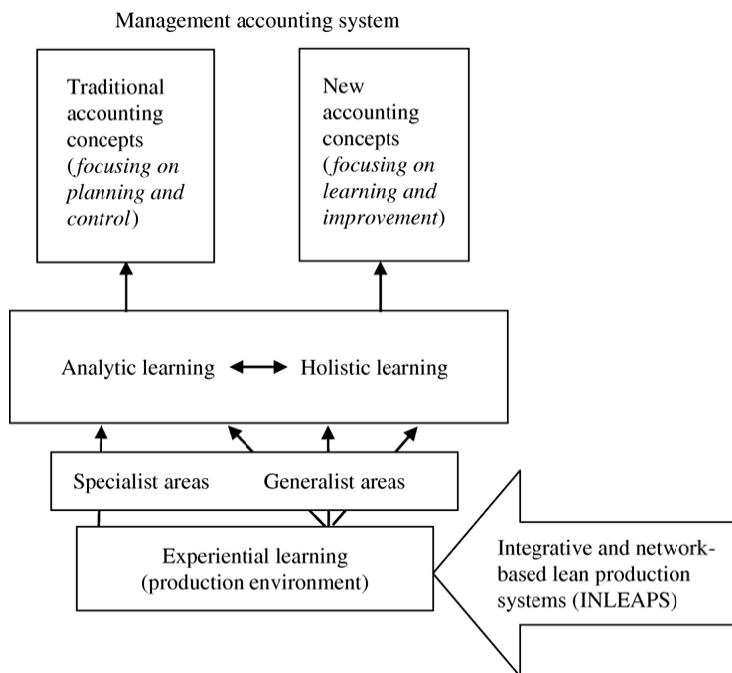
Source: Chou et al., 2008, p. 42.

With the use of accounting information in case of improvement of organizational processes has also deal Schiller (2010, p. 123). The author develops the idea of establishing a system of management accounting. The use of accounting information changes with the change in the working environment. According to Remenyi (1998), the objective of the research study is providing dimensional picture of the situation (in Schiller, 2010, p. 125) and analyze the effects of the implementation an advanced system of lean manufacturing, which focuses on the comprehensive integrated learning system management accounting.

Schiller (2010) assumes that foundation of the organization is the learning from experience oriented organizations and employees on which is appropriate to develop and maintain local management accounting systems and that learning from experience takes place within the production environment and cannot be outside the organization.



**Picture 3:** Management accounting system



Source: Schiller, 2010, p. 127.

Schiller (2010) argues that the analytical learning is supported by traditional accounting systems, which focus primarily on accounting procedures. Traditional accounting systems place emphasis on planning, recording, control, analysis and information. Holistic learning (Schiller, 2010) provides the basis for new, innovative accounting concepts which submit accounting to the strategy and objectives of the organization. Innovative accounting systems focus on learning and encourage continuous improvement. Smulders (2004) notes that holistic learning refers to the understanding of employees (know-how) different broad areas, such as maintenance, programming, quality, accounting, etc . . . and mutual understanding of the area (Schiller, 2010, p. 128).

The learning processes in management accounting covers both analytical (traditional management accounting) and holistic (new concepts of management accounting) learning, through which the organization acquire and use relevant accounting information and introduces new accounting concepts as a basis for improving business processes. In order to improve learning processes and the use of emerging knowledge organization applies appropriate processes and knowledge management activities which are included in the appropriate systems of knowledge management.

Orientation of employees in holistic learning affects the development of new accounting concepts that are shifted from those relied on planning and control to those relied on learning and improvement (Schiller, 2010, p. 129). Traditional forms of management accounting can only partially fulfill the expectations of successfully managed relations, which are based on the institutional, economic, social and technical nature. It is necessary in organizations to employ different skilled, well-trained and well-motivated employees. They are crucial to the survival of any modern organization.

Similarly, the authors contend Van der Meer-Kooistra and Scapens (2004, p. 18) say that management accounting information is important in their mutual relations between departments and can facilitate communication, shared decision-making, information sharing and building trust among all participants in the network (Schiller, 2010, p. 140). Abrahamsson & Gerdin (2006, p. 141) claim that the project can be key trigger in institutional (organizational) and can open up new and legitimate venues for collective reflection and analysis of the social restrictions. The authors argue that management accounting can play a key role in organizational change processes. Using the information of management accounting the responsibility of every employee shifts from the vertical into a more horizontal responsibility. Employees are becoming more responsible and the orientation is transferred to how to operate a whole production flow (Abrahamsson & Gerdin, 2006, p. 142).

#### 4. KNOWLEDGE MANAGEMENT AND MANAGEMENT ACCOUNTING

In this chapter the author proposes four proposals that are presented in the conceptual model. The chapter is based on the findings of the different authors (Abrahamsson & Gerdin, 2006, Becerra - Fernandez & Sabherwal, 2001, Burns & Yazdifar, 2001, Chou et al., 2008; Lukka, 1998, Schiller, 2010; Vaivio, 2008) who argue that the processes and knowledge management activities with the promotion of learning have an impact on the knowledge of employees, the processes, products and performance of the organization. Knowledge management activities are primarily focused on changing the role of accounting from the cost and financial (traditional) oriented to so-called strategic oriented accounting. The traditional role of accounting was limited primarily to the planning and supervision and is changing to the strategic role of accounting. The role of strategic accounts after Kolarju (2003) is providing, collecting, monitoring, investigating and reporting data and information on past and future operations of the organization, on the competition and on the company in the past and the future for the utilization of designing, developing, monitoring, controlling and guidance of strategies. The management accounting is changing because the role of accounting in the organization is changing as a result of new knowledge of employees in the organization.

Strategic management accounting can be a carrier of changes in the organization, as it influences the processes within the organization. Changes can be achieved through knowledge management activities so that the importance or emphasis on internal financial information from the past (ex -post) is minimized, which is typically for traditional management accounting and the importance or emphasis on a wider range of information, including both internal and external financial and non-financial information (ex - ante) information (Čadež, 2006, p. 22) is increasing that is typically for strategic management accounting. Similarly argues Schiller (2010).

The proposal of the author` model in the paper bases on four proposals, that strategic management can be a carrier of changes in organization through knowledge management activities.

*P1: Management accounting is changing with the changes that are based on a holistic learning, and this is affecting processes within the organization.*

Improved processes are resulting in improved flexibility of the organization, lower costs, innovation processes and products. According to Schiller (1999) change brings new standards, norms, values and new structures. The revised processes affect performance and innovation within the organization (Becerra Fernandes and Sabherwal, 2001). Strategic management accounting provides to the management of organization the information on past and future operations of the organization. On the basis of the information received at regular intervals units management of the organization can monitor changes, supervises and directs the implementation of strategies (Kolar, 2003), which enables better efficiency of the organization and competitive advantage. As these activities become routine in the organization, employees are considered them as working process and try to figure out better ways of doing things (March & Simon, 1993). The proposal for this argument follows.

*P2: The modified processes that are resulting from the changes in management accounting, are allowing better performance of the organization.*

*P3: The modified processes that are resulting from the changes in management accounting, are allowing innovations within the organization.*

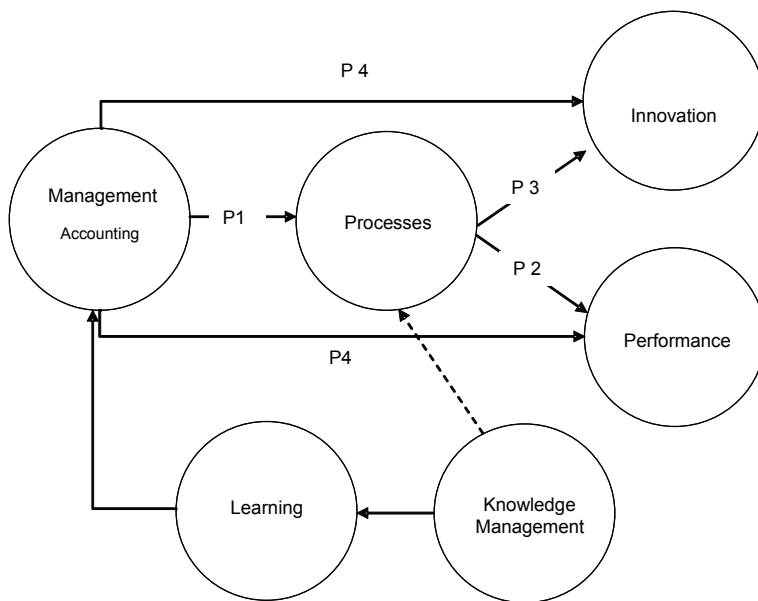
With the knowledge management activities, such as preparing data and information for strategic decision-making, monitoring and comparison of the data and information with the strategy, changing data and information that can be supported by information technology, we can change the role of the accounting from the traditional, which deals with plans and supervises data from the past to the strategic management accounting, which is amended mindset and actions of employees (understanding of planning, monitoring and controlling, or the introduction of economic way of thinking of all employees (Schiller, 2010, p. 139)). Another consequence of training the employees in applying economic thinking is that they had better understand the significance of differences in the economic result of the company, and hence they become more sensitive to appeal for continuous improvements. This is resulting in a better performance and innovation within the organization, which is the next proposal in the conceptual model.



*P4: The change from the traditional to strategic management accounting can directly influence better performance within the organization.*

The designed conceptual model, based on the characteristics of knowledge management, assumes that management accounting is becoming increasingly important, as it is one of the sources of knowledge and skills that support the competitive advantage of organizations (Lukka, 1998). Similarly, notes Čadež (2006) in a study of strategic management accounting systems where the contingency approach is used and the success is treatment as the dependent variable, which can be empirically tested. Čadež (2006) further notes, on the basis of empirical research, that universal strategic approach to the development of management accounting does not exist.

**Picture 4:** Conceptual model of the impact of changes in management accounting on performance and innovation organizations through changes in processes



Source: the authors' model.

Presented conceptual model requires empirical study that will be conducted on the basis of quantitative research. The study will include accountants and member of the board of large companies in Slovenia. On the basis of a questionnaire we will try to linked strength and directness or indirectness of the impact of changes in management accounting processes on efficiency and innovation within the organization.

## 5. CONCLUSION

With the changes in the field of knowledge management have begun organizational change in organizations, as a result of creating new knowledge, its search, dissemination and use. The expansion of information technologies has enabled the rapid development in the use of scientific knowledge in the field of knowledge management in practice. Similarly, we can find in managerial accounting, which also the last two decades made a big step forward. The foundation of progress in research areas and transition from the traditional processes that have dealt with accounting data from the past in the modern management accounting, which is a part of strategic management. With the spread of new knowledge in the management accounting among all employees in the organization, the organization creates new knowledge that is incorporated into organizational processes with the support of information technology. The result is a continuous innovation of employees in improving processes and reducing costs, thereby preserving and enhancing the competitive advantage of the organization.

Further empirical study of the proposed conceptual model will confirm the power of impact on the effectiveness and innovation within the organization with the support of the changed management accounting, which preserves and increases the competitive advantage of the organization. The possibility of further research in the field of strategic management accounting is possible, particularly in terms of the empirical treatment of the interdependence of business functions to improve efficiency and innovation organizations in order to maintain a competitive advantage.

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